Special Issue

Recent Advances in Nanofluidics: Devices, Technologies and Applications

Message from the Guest Editors

Nanofluidics, derived from microfluidics, explores confined fluidic/ion transport phenomena and precision regulation at the nanometer and angstrom scales, which can inspire the next technological revolution to solve energy and resource crises. Learning from nature boosts the progress of nanofluidics that in turn has promoted the bionic fundamentals and engineering. Due to the advances in nanomaterial synthesis and nanofabrication technologies, nanofluidics has grown rapidly in recent two decades, especially the considerable headway in ultrafast and selective fluidic/ion transport and gating fluidic/ion transport as biological water/ion channels and neurons, indicating the coming age of nanofluidics. Accordingly, this Special Issue seeks to showcase research papers, communications, reviews, and opinion articles that focus on developments in the fabrication of nanofluidic devices, such as artificial ion transistors, ionic machines, and iontronic devices, and their use for biomimetic mass transport, signal transmission and storage, and membrane separation, sensing, and reaction.

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